

CLAIMS

1. (cancelled)
2. (currently amended) ~~The A~~ network configuration entity ~~of claim 1 further~~ comprising a memory for storing an NCE list, said NCE list comprising an indication of each device in ~~the a~~ secure network that may operate as said network configuration entity.
- 3-4. (cancelled)
5. (currently amended) The network configuration entity of claim [[4]]2 further comprising a memory for storing a DCC list, said DCC list associated with ~~said~~ one or more rules for interaction between and among devices in the secure network and comprising definitions that logically bind a port on the network configuration entity[[.]] to one or more other ports resident in the secure network.
6. (cancelled)
7. (currently amended) The network configuration entity of claim ~~6-5~~ wherein said ports are identified by a unique number.
8. (previously presented) The network configuration entity of claim 7 wherein said unique number is a world-wide-name.
9. (cancelled)
10. (currently amended) The network configuration entity of claim ~~9-2~~ further comprising a memory for storing ~~an-a~~ MAC list, said MAC list comprising an indication of network endpoints from which management access is ~~acceptable~~permitted.
11. (currently amended) The network configuration entity of claim ~~9-10~~ wherein said network endpoints ~~comprise~~are indicated by IP addresses.

12. (previously presented) The network configuration entity of claim 11 wherein said IP addresses are associated with access from SNMP or Telnet or HTTP or API.
13. (currently amended) The network configuration entity of claim 9-10 wherein said network endpoints ~~comprise~~are uniquely indicated by identified device ports.
14. (currently amended) The network configuration entity of claim 9-10 wherein said network endpoints comprise uniquely identified devices resident in said secure network.
15. (cancelled)
16. (currently amended) The network configuration entity of claim ~~15-2~~ further comprising a memory for storing an SCC list, said SCC list associated with ~~said~~ switch connection controls and comprising a list of devices authorized to participate in said secure network.
17. (currently amended) A network configuration entity ~~configured or adapted to exclusively control a defined set of management functions throughout a secure network, said secure network comprising a plurality of switching devices, said set of management functions comprising (i) the recognition, operation and succession of the network configuration entity, (ii) switch connection controls for designating devices to participate in the secure network, (iii) device connection controls that indicate port relationships in said secure network, and (iv) management access controls that restrict management services to a defined set of endpoints, said network configuration entity comprising:~~

a processor; and

a memory for storing

an NCE list, said NCE list comprising an indication of each device in the network that may operate as said network configuration entity,

an SCC list, said SCC list comprising an indication of each device allowed to participate in said secure network,

a DCC list, said DCC list associated with said one or more rules for interaction between and among devices and comprising definitions that logically bind a port

on the network configuration entity, to one or more other ports resident in the secure network, and,

a MAC list, said MAC list comprising an indication of network endpoints from which management access is acceptable.

18. (cancelled)
19. (currently amended) A ~~Fibre Channel~~ switching device ~~configured or adapted to operate in a secure network wherein a defined set of management functions is controlled throughout said secure network by a network configuration entity, said secure network comprising a plurality of switching devices, said set of management functions comprising (i) the recognition, operation and succession of the network configuration entity, and (ii) switch connection controls for designating devices to participate in the secure network, said Fibre Channel switching device comprising:~~
 - a processor; and
 - a memory for storing
 - a list of entities eligible to be a primary network configuration entity, wherein the primary network configuration entity has exclusive control of one or more security functions, one of the entities on said list being a default primary configuration entity and identifiable as such by a pre-defined rule~~an NCE list, said NCE list associated with said recognition, operation and succession of the network configuration entity and comprising an indication of each device in the network that may operate as said network configuration entity, and~~
 - a network configuration policy set, said network configuration policy set comprising,
zoning information defining members of the logical zones in said physical network, and
fabric segmentation information defining management procedures to be implemented in the event that said network switch becomes a member of a segmented portion of the network~~an SCC list, said~~

~~SCC list associated with said switch connection controls and comprising an indication of each device allowed to participate in said secure network.~~

20. (cancelled)
21. (currently amended) A ~~Fibre Channel~~ switching device ~~configured or adapted to operate in a secure network wherein a defined set of management functions is controlled throughout said secure network by a network configuration entity, said secure network comprising a plurality of switching devices, said set of management functions comprising (i) the recognition, operation and succession of the network configuration entity, and (ii) management access controls that restrict management services to a defined set of endpoints, said Fibre Channel switching device comprising:~~

~~a processor; and~~
~~a memory for storing~~
~~a list of entities eligible to be a primary network configuration entity, wherein the primary network configuration entity has exclusive control of one or more security functions, one of the entities on said list being a default primary configuration entity and identifiable as such by a pre-defined rulean NCE list, said NCE list associated with said recognition, operation and succession of the network configuration entity and comprising an indication of each device in the network that may operate as said network configuration entity, and~~
~~MAC policies, said MAC policies defining logical channels from which a pre-defined set of security or management operations may originatea MAC list, said MAC list associated with said management access controls and comprising an indication of network endpoints from which management access is acceptable.~~

54. (currently amended) A method of securing a network ~~having a Fibre Channel switching device configured or adapted to operate in a secure network wherein a defined set of management function is controlled throughout said secure network by a network configuration entity~~, said method comprising the steps of:

controlling the recognition, operation and succession of the network configuration entity by designating an NCE list comprising an indication of each device in the network that may operate as said network configuration entity;

designating a unique name for each devices that may participate in the secure network;

indicating port relationships in said secure network to specifically delineate a list of unique names for ports that any given port may communicate with; and

restricting management access to a pre-defined set of access methods.

55. (new) The network configuration entity of claim 17 wherein the network configuration entity is a switching device.

56. (new) The network switch of claim 19 further wherein the memory further stores MAC policies, said MAC policies defining logical channels from which a pre-defined set of security or management operations may originate.

57. (new) The network switch of claim 19 wherein the one or more security functions comprise specifying devices that may facilitate management-level access to the network.

58. (new) The network switch of claim 19 wherein the one or more security functions comprise providing confidentiality or information security for management information being passed over the network.

59. (new) The network switch of claim 19 wherein the one or more security functions comprise limiting use of logical management access channels.

60. (new) The network switch of claim 19 wherein the one or more security functions comprise specifying what devices or entities are allowed in the network.

61. (new) The network switch of claim 19 wherein the one or more security functions comprise specifying what entities are allowed to access what other entities in the network.
62. (new) The network switch of claim 19 wherein each entity on the list of entities eligible to be a primary network configuration entity is assigned a level in an authority hierarchy.
63. (new) The network switch of claim 62 wherein only one entity on the list of entities eligible to be a primary network configuration entity is assigned to the highest level of the authority hierarchy.
64. (new) The network switch of claim 62 wherein entities assigned to lower levels of the authority hierarchy have exclusive control of only a subset of the one or more security functions.
65. (new) The network switch of claim 21 wherein the one or more security functions comprise specifying devices that may facilitate management-level access to the network.
66. (new) The network switch of claim 21 wherein the one or more security functions comprise providing confidentiality or information security for management information being passed over the network.
67. (new) The network switch of claim 21 wherein the one or more security functions comprise limiting use of logical management access channels.
68. (new) The network switch of claim 21 wherein the one or more security functions comprise specifying what devices or entities are allowed in the network.
69. (new) The network switch of claim 21 wherein the one or more security functions comprise specifying what entities are allowed to access what other entities in the network.

70. (new) The network switch of claim 21 wherein each entity on the list of entities eligible to be a primary network configuration entity is assigned a level in an authority hierarchy.
71. (new) The network switch of claim 21 wherein only one entity on the list of entities eligible to be a primary network configuration entity is assigned to the highest level of the authority hierarchy.
72. (new) The network switch of claim 21 wherein entities assigned to lower levels of the authority hierarchy have exclusive control of only a subset of the one or more security functions.